

REMARKS

This amendment is responsive to the Office Action dated January 10, 2006. Claims 1 - 10 are pending in this application.

Claims 1 - 6 have been rejected and claims 7 - 10 have been objected to. Reexamination is respectfully requested.

These remarks follow the order of the outstanding Office Action beginning at page 2 thereof.

Claim Objections

Claim 1 is objected to as including the words "optical member mounting device". In order to clarify the claim, Applicant has deleted the word "device" from this phrase in all claims. It is respectfully submitted that this should clarify the claim. However, should the Examiner have any further suggestions or comments it is respectfully requested that he telephone the undersigned.

Claim Rejections - 35 USC § 112

The rejection of claim 3 has been noted and Applicant has amended claim 3 to state that the mounting member is formed as a plate. Clearly the plate is now part of the claimed invention.

Applicant has amended claim 1 to move the words "which

mounts the luminous flux dividing device and luminous flux outputting devices" forward in the clause to follow the words "optical member mounting". This places the clause in a location where the claim follows conventional English structure. The claim as amended is also in conformance with the Abstract as originally filed.

Claim Rejections - 35 USC § 103

Other than the amendments discussed under 35 USC § 112, there have been no amendments in the claims for the purpose of overcoming the prior art rejection under 35 USC § 103.

In the apparatus as set forth in claim 1, Applicant claims the optical mounting member, which mounts the luminous flux dividing device and luminous flux outputting devices. Applicant further states that there is a predetermined area of the optical mounting located between the two luminous flux outputting devices that is a light-transmitting area. The optical member mounting is separated from the imaging device.

Cloud '482 teaches a device including a laser (10) and polarization beam splitter (12) (column 4, line 36 - 37). Wherein the PBS is connected to fiber optic cables (16) and (18). '482 at column 3, beginning at line 30 and continuing through line 36 teaches:

"It is yet another object of the present invention to provide an interferometer apparatus which affords the capability of placing the illumination sources, (the fiber terminations) on a testing machine or even attaching them to the specimen; while

the laser and other components are at a separate locations. In this way, remote measurement of strain in hostile environments can be conducted."

The above paragraph shows that the fiber optic cables (16) and (18) are flexible and allow placing of the illumination sources (the fiber terminals) on a testing machine or even attaching them to the specimens (in short, the tips of the cables (20) and (22) can be moved around independently of the PBS (12)). Stated another way, the ends of the cables are not mounted on the PBS (12).

On the other hand, Applicant, as pointed out above, claims an optical mounting member. In '482 there is simply no optical mounting member at all which is shown. Still further, in '482 there is no teaching of a predetermined area of the optical mounting which is a light transmitting area which transmits there through interface light from the rough object surface as claimed in claim 1.

'482 does not suggest the use of the claimed optical mounting member, and in fact teaches directly away from it in the above-quoted paragraph. There is simply nothing in '482 either in the drawings or the text that would suggest the optical mounting member as claimed. This can be seen from Figure 1, which the Examiner has reproduced in the Office Action.

#### The Rejection

The Examiner never considered or found that the optical

member mounting is separated from the imaging device. The Examiner at page 4 beginning at line 3, notes that Cloud fails to explicitly disclose an optical member mounting device on which the light output devices are mounted and through which the camera observes the interference fringes. The Examiner, without further citation of any prior art then continues to argue a *prima facie* case based upon observations that certain things must be. The Examiner argues that the apparatus "must be attached or placed on a stable surface in order to prevent the shift of the elements of the apparatus during operation. Such a surface, however, is not the claimed mounting device through which the camera observes interference fringes. The Examiner argues that a flat plate would be the simplest mounting arrangement without any teaching from the prior art with respect to claim 3. It is respectfully submitted that the Examiner is exercising in clear hindsight reasoning based upon the teachings of Applicant's specification and Applicant's claims, without any suggestion to be found in the only prior art reference cited in this portion of the rejection, namely the '482 patent. The Examiner argues that there would be motivation for mounting in order to provide for a smaller more compact apparatus while maintaining stability of the elements for the device for accurate measurements. There is nothing in '482 or any of the prior art that would suggest that these are motivations or problems associated with the speckle interferometer apparatus. The Examiner does not explain why the

motivation of more compact would lead one to the claimed mounting which mounts the luminous flux device and luminous flux outputting devices wherein there is a predetermined area of the mounting member located between two luminous flux outputting devices and a light transmitting area. The Examiner's arguments are that it is obvious to mount, but this does not address at all the separated limitation. The Examiner is in fact arguing motivation based upon Applicant's claimed arrangement, not based upon any teaching of the prior art.

With respect to claim 2, Applicant notes that the Examiner has argued that '482 teaches that there are different optical path links by virtue of what is shown in Figure 1. However, the Examiner must note that patent drawings are not scale drawings and that this is well established in the patent law. There is no other teaching in '482 that the fibers (16) and (18) have lengths which differ. Still further, the difference referred to in claim 2 is a difference between optical paths of the luminous fluxes divided by the luminous flux dividing device. When this is considered, it is clear that '482 shows that the luminous fluxes emanating from (24) and (26) and approaching the surface (28) are identical. Still further, the specification quoted above (column 3, lines 30 - 36) shows that locations are changeable. This discussion of changing locations does not in any way express a concern for optical paths.

It is known in the art that optical paths, in the sense of

optical path difference, are measured in terms of wavelengths of light, and not in terms of what can be seen on a drawing. Simply stated, it is a matter of phase difference that is adjusted, not the length of a cable.

#### Claim 5

Claim 5 requires two sets each of two luminous flux outputting device their respective predetermined directions of the two luminous flux outputting devices in the two sets being substantially orthogonal to each other. This configuration is shown in Applicant's drawings, namely Figures 1, 2A, 2B, etc. As shown in Figure 1, (9a) and (9b) (9b is hidden) produce light (8a) and (8b). On the other hand, as shown in Figure 1, orthogonal to (9a) and (9b) are (9c) and (9d). Therefore, there are two sets of two luminous flux outputting devices. This is clearly seen in Figures 2A where (9a) corresponds to (211a), (9b) corresponds to (211b), (9c) corresponds to (201a) and (9d) corresponds to (201b). There are, therefore, two luminous flux devices that are shown to be orthogonal to each other in both Figures 1 and 2A. The claim requires the two luminous flux outputting devices in two sets being substantially orthogonal to each other. On the other hand, Cloud '482 does not show this at all. Cloud shows only two flux outputting devices which are feed by fiber optic cables (16) and (18). There are never additional fiber optic cables beyond the two shown, and never another pair

of luminous flux outputting devices, much less a teaching that they must be orthogonal. For this reason, the Examiner's rejection of claim 5 is respectfully traversed. The Examiner refers to orthogonal, but never cites where this is to be found in the Cloud reference.

#### Claim 6

Claim 6 depends from claim 5. The Examiner contends that claim 6 discloses the invention as claimed but fails to disclose the ability to regulate the device so that light can be received by the measuring object by either one of the outputting devices individually. Claim 6 refers to two sets of luminous flux outputting devices that are regulated such that one group can output the luminous flux alone or such that two sets can alternatively output luminous fluxes. The Examiner cites Sarrafzadeh-Khoei '477. Since the limitations of claim 5 are not present in Cloud '482, the rejection to claim 6 should be withdrawn.

In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance, and early action in accordance thereof is requested. In the event there is any reason why the application cannot be allowed in this current condition, it is respectfully requested that the Examiner contact


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the undersigned at the number listed below to resolve any problems by Interview or Examiner's Amendment.

Respectfully submitted,



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